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EXAMINER	
STACE, BRENT S	

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,821	FORMAN, GEORGE H.	
	Examiner	Art Unit	
	Brent S. Stace	2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-15,17-23 and 25-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-15,17-23 and 25-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. This communication is responsive to the amendment filed June 13th, 2006. Claims 1-7, 9-15, 17-23, and 25-32 are pending. In the amendment filed June 13th, 2006, Claims 1, 3-5, 7, 9-12, 14, 15, 17-19, 21, 27, 28, and 30 are amended, Claims 8, 16, and 24 are canceled, Claims 31 and 32 are new, and Claims 1, 11, 17-19, and 28-30 are independent. The examiner acknowledges that no new matter was introduced and the claims are supported by the specification. This action is FINAL.

Response to Arguments

2. The Applicant's arguments filed June 13th, 2006 with respect to Claims 1-7, 9-15, 17-23, and 25-32 have been considered but are not persuasive.

3. One of the Applicant's arguments with respect to claim 28 has been considered but is moot in view of the new ground(s) of rejection.

4. As to the applicant's arguments with respect to Claims 17 and 18 for the prior art(s) allegedly not teaching that Anderson's scores are for cards, transactions, or events in contrast to the tallies incremented of the claim that are tallies for each of second members in a subset, where the second members are each a potential point-of-compromise, the examiner respectfully disagrees. The examiner respectfully submits that the Applicant's claims and specification do not limit "members" as not being cards, transactions, or events. In fact, the specification only mentions "member" once in the

"Technical Field" section, page 1. The mentioning in the specification is not at all definitional.

5. As to the applicant's arguments with respect to Claims 31 and 32 for the prior art(s) allegedly not teaching that the scores in Anderson do not constitute a count of a number of occurrences of transactions involving the comprised first members at the corresponding second member, the examiner respectfully disagrees. New Claims 31 and 32 have been rejected below. Anderson hold totals (tallies/counts), specifically those claimed at the cited sections. Particular attention should be brought to Anderson, col. 8, lines 15-20 since that area includes "total number of successful transactions." However, the combination of citations used below should not be ignored.

6. As to the applicant's arguments with respect to Claim 1 for the prior art(s) allegedly not teaching that the scores in Anderson do not suggest the interaction factors, the examiner respectfully disagrees. The examiner notes that the "factors" and their use in the claim appears to be nothing more than the tallies from Claim 32. The new limitations in Claim 1 have been mapped to Anderson as shown below. Particular attention should be brought to Anderson, col. 8, lines 15-20. New grounds of rejection may have applied since the scope of Claim 1 has substantially changed.

7. As to the applicant's arguments with respect to Claim 11 for the prior art(s) allegedly not teaching that the scores calculated in Anderson do not teach or suggest assigning the point-of-compromise scores the examiner respectfully disagrees. Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with

Anderson, col. 9, lines 54-65 were used in the rejection regarding these limitations. Toward the bottom of Anderson, col. 6, lines 1-30 alone teaches these limitation in that the cited section teaches that the card, transactions, and events are scored and used to "again determine the point of compromise." These cards, transactions, and events are then used as a basis for fraudulent activities, but "as new fraud pattern are detected, this information can be used to modify and refine the various scoring criteria" (used to determine the point of compromise).

8. As to the applicant's arguments with respect to Claim 19 for the prior art(s) allegedly not teaching that the scores calculated in Anderson do not provide any suggestion of a tally of transactions for each point-of-use and incrementing each tally for each occurrence of transactions involving at least one of the compromised credit cards, the examiner respectfully disagrees. Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65 teaches this in that Anderson, in col. 8, lines 15-20 contains a total number of successful transactions. This is a tally of transactions for each point-of-use. Since this is a deduced total from looking at history information, it must be incremented for each occurrence of transactions that happen to involve at least one of the compromised credit cards.

9. As to the applicant's arguments with respect to Claim 28 for the prior art(s) allegedly not teaching that the scores calculated in Anderson do not constitute a tally for each merchant, the examiner respectfully disagrees. Anderson, col. 8, lines 10-13

teach a tally for each merchant in that the scoring parameters include "more than 1 successful transaction at the same terminal ID."

10. As to the applicant's arguments with respect to Claim 28 for the prior art(s) allegedly not teaching that Anderson does not teach or suggest sorting the merchants by tally, the examiner agrees. However, the scope of the claim has changed from the applicant' amendments. The amendment sorts according to the tallies instead of the tally score. This is a scope that was not previously considered. This argument is moot since a new ground of rejection has been met below.

11. As to the applicant's arguments with respect to Claim 29 for the prior art(s) allegedly not teaching that the scores in Anderson do not constitute a score that represents a point-of-compromise probability for each member of the second class, the examiner respectfully disagrees. Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65 were used in the rejection regarding these limitations. This argument is similar to Claim 11's argument met above. However, it should be noted that the scores in Anderson, contain weights (as shown in Anderson, cols. 7-8, lines 49-38). The weights along with the score are indicative of fraudulent behavior (since Anderson's invention is trying to find fraudulent behavior (as indicated in Anderson, col. 3, lines 15-30 with Anderson, col. 4, lines 2-3))

12. As to the applicant's arguments with respect to Claim 30 for the prior art(s) allegedly not teaching "counting the number of the interactivity events for each of the points-of-use in the selected file," the examiner respectfully disagrees. The applicant

has only alleged that the examiner has given a defective reading of the claim element. As such, the examiner can only explain how Anderson teaches the element as cited. Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65 were used in the rejection regarding these limitations. Again, specific attention should be brought to Anderson, col. 8, lines 10-15 where it describes "more than 1 successful transaction (interactivity events) at the same terminal ID" (point-of-use). In order to determine that there is more than 1 successful transaction at the same terminal ID, a count must be made.

13. The other claims argued merely because of a dependency on a previously argued claim(s) in the arguments presented to the examiner, filed June 13th, 2006, are moot in view of the examiner's interpretation of the claims and art and are still considered rejected based on their respective rejections from the first Office action (parts of recited again below).

Response to Amendment

Specification

14. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

15. In light of the applicant's respective arguments or respective amendments, the previous claim objections to the claims have been withdrawn

Claim Rejections - 35 USC § 112

16. In light of the applicant's respective arguments or respective amendments, the previous 35 USC § 112 claim rejections to the claims have been withdrawn

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 17, 18, 31, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,094,643 (Anderson et al.).

Claim 17 can be mapped to Anderson as follows: "A data storage and data mining process for determining at least one probable point-of-compromise for members of a data set, [Anderson, col. 5, lines 24-38] the process comprising:

- in a set of data files, [Anderson, col. 7, lines 2-14] logging every individual transaction between first members and second members, [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 54-65] wherein said first members are subject to compromise [Anderson, col. 6, lines 2-6] and said second members are each a

potential point-of-compromise; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]

- for a given set of compromised first members, [Anderson, col. 8, lines 45-60] segregating a subset of the data files for a predetermined past time period wherein said subset has at least one of said first members logged therein; [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65]
- for each of said second members in said subset, incrementing a corresponding second member tally in response to each said individual transaction associated with each one of said compromised first members, and creating a set of the second member tallies that are associated with respective second members; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65] and
- organizing said set of second member tallies according to a predetermined scoring statistic associated with probability of point-of-compromise" [Anderson, col. 8, lines 40-60 with Anderson, col. 9, lines 54-65].

Claim 18 encompasses substantially the same scope of the invention as that of Claim 17, in addition to a system and some means for performing the method/process steps of Claim 17. Therefore, Claim 18 is rejected for the same reasons as stated above with respect to Claim 17. Additionally, Claim 18 recites the following means also mapped to Anderson: "...means for storing data files" [Anderson, col. 7, lines 2-14].

Claim 31 can be mapped to Anderson as follows: "The data storage and mining process of claim 17, wherein incrementing each second number tally comprises

incrementing a corresponding count of a number of occurrences of transactions involving the compromised first members at the corresponding second member" [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 9, lines 54-65].

Claim 32 can be mapped to Anderson as follows: "The data storage and data mining process of claim 18, wherein each second member tally comprises a count of a number of occurrences of transactions involving the third members at the corresponding second member" [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 9, lines 54-65].

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. Claims 1-3, 9-11, 13, 15, 16, 19, 20, 21, 25, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.).

Claim 1 can be mapped to Anderson as follows: "A method for predicting potential points-of-compromise, [Anderson, col. 5, lines 24-38] the method comprising:

- correlating each first member of a first set, wherein each of said first members may be compromised, [Anderson, col. 6, lines 2-6] with each second member of a second set, wherein each of said second members may be a potential point-of compromise; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]

- for a given third set of third members, wherein each of said third members is a given compromised first member from said database, [Anderson, col. 8, lines 45-60] selecting interactions associating said third members and said second members; [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 53-65]
- calculating interaction factors for respective second members that are part of interactions involving the third members, [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 53-65] each interaction factor indicating a number of occurrences of interactions involving said third members at a corresponding second member; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 9, lines 54-65] and
- predicting at least one potential point-of-compromise from results of said calculating" [Anderson, col. 6, lines 1-30 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "storing a database
- recording in said database each interaction of a first member with a second member."

With respect to Claim 1, Anderson, teaches:

- "storing a database [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5]
- recording in said database each interaction of a first member with a second member" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases, however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

Claim 2 can be mapped to Anderson as follows: "The method as set forth in claim 1 said selecting further comprising:

- for each of said third members, including each said interaction found for a predetermined past time period" [Anderson, col. 8, lines 45-60].

Claim 3 can be mapped to Anderson as follows: "The method as set forth in claim 2 wherein each said predetermined past time period is determined individually from a given time-of-first-known-fraud for each of said third members" [Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52].

Claim 9 can be mapped to Anderson as follows: "The method as set forth in claim 1, said predicting further comprising:

- listing all second members associated in said selecting as a potential point-of-compromise with a score based upon the interaction factors" [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65].

Claim 10 can be mapped to Anderson as follows: "The method as set forth in claim 9, said predicting further comprising:

- adjusting each said score by a common factor associated with each said second member to normalize the scores" [Anderson, col. 7, lines 2-14].

Claim 11 can be mapped to Anderson as follows: "A method for identifying possible points-of-compromise, [Anderson, col. 5, lines 24-38] the method comprising:

- correlating a plurality of at least first items and second items, each second item representing a potential point-of-compromise; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]
- for a given subset of the first items, extracting from said matrix all interactivities of the first items in said subset with second items; [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 53-65]
- tabulating extracted said interactivities according to frequency of said interactivities; [Anderson, col. 9, lines 12-15 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65] and
- assigning a point-of-compromise score to each of said second items that are involved in the extracted interactivities, wherein each said score is indicative of frequency of the extracted interactivities occurring at the corresponding second item" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "creating a matrix
- logging in said matrix every interactivity involving pairs of said first and second items."

With respect to Claim 11, Anderson, teaches:

- "creating a matrix" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5]
- logging in said matrix every interactivity involving pairs of said first and second items." [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases (a matrix), however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

Claim 13 can be mapped to Anderson as follows: "The method as set forth in claim 11 further comprising:

- limiting said extracting to a predetermined past time frame" [Anderson, col. 8, lines 45-60].

Claim 15 can be mapped to Anderson as follows: "The method as set forth in claim 11 wherein each said extracted interactivity is a data pair further comprising a first identifier representative of a compromised first item and an interactivity situation identifier" [Anderson, col. 7, lines 10-15 with Anderson, col. 8, lines 40-60].

Claim 19 can be mapped to Anderson as follows: "A method of determining credit card fraud point-of-compromise scores, [Anderson, col. 5, lines 24-38 with Anderson, col. 6, lines 10-30] the method comprising:

- correlating issued credit cards with authorized points-of-use such that transactions involving use of a credit card are retrievably; [Anderson, col. 6, lines 2-6 with Anderson, col. 9, lines 53-65]
- for a given set of compromised credit cards, [Anderson, col. 8, lines 45-60] extracting from said database all transactions involving use of each of said compromised credit cards; [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65]
- for each of said authorized points-of-use involved in at least one of said transactions involving at least one of said compromised credit cards, creating a tally of said transactions for each point-of-use, and incrementing each said tally for each occurrence of transaction involving at least one of said compromised credit cards; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65]
- sorting said authorized points-of-use according to the tallies; [Anderson, col. 8, lines 45-60] and

- assigning a score representative of point-of-compromise likelihood to each of said authorized points-of-use according to the respective tally" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "logged in a database."

With respect to Claim 11, Anderson, teaches:

- "logged in a database" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases, however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

Claim 20 can be mapped to Anderson as follows: "The method as set forth in claim 19 wherein said extracting is limited to a predetermined time period range of past transactions" [Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65].

Claim 21 can be mapped to Anderson as follows: "The method as set forth in claim 19 wherein each said score is normalized via a characteristic related to point-of-use" [Anderson, col. 7, lines 2-14 with Anderson, col. 7, lines 25-31].

Claim 25 can be mapped to Anderson as follows: "The method as set forth in claim 20 wherein said predetermined time period range of past transactions is based upon a given suspected time-of-compromise window prior to a time-of-first-known-fraud for each said credit card" [Anderson, col. 9, lines 1-12 with Anderson, col. 6, lines 2-6 with Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52].

Claim 29 can be mapped to Anderson as follows: "A computer memory [Anderson, col. 5, lines 21-27 with Anderson, col. 7, lines 16-19] comprising:

- computer code for wherein members of a first class are associated with members of a second class in accordance with each interaction of a member of the first class with a member of the second class; [Anderson, col. 6, lines 2-6 with Anderson, col. 9-10, lines 53-5 with Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38]
- computer code for extracting from said database only those interactions for a predetermined past time period associated with a given subset of members of the first class wherein said given subset represents individual compromised members of said first class; [Anderson, col. 8, lines 40-60 with Anderson, col. 9, lines 54-65] and
- computer code for assigning a score to individual members of the second class for each of said interactions extracted wherein said score represents a point-of-

compromise probability for each of said individual members of the second class" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65].

Anderson discloses the above limitations but does not explicitly teach:

- "compiling a database"

With respect to Claim 29, Anderson, teaches:

- "compiling a database" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases, however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

21. Claims 4-7, 12, 14, 22, 23, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.) in view of U.S. Patent No. 5,937,406 (Balabine et al.).

For **Claim 4**, Anderson teaches: "The method as set forth in claim 3 wherein said storing and said recording further comprises:

- characterized by a predetermined time frame bounding interactions" [Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6].

Anderson discloses the above limitation but does not expressly teach:

- "dividing said database into a plurality of separately retrievable files, wherein each of said files is...between said first members and said second members."

With respect to Claim 4, an analogous art, Balabine, teaches:

- "dividing said database into a plurality of separately retrievable files, wherein each of said files is...between said first members and said second members" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 50-56, with Balabine, col. 8, lines 23-26].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide

the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

Claim 5 can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 4 wherein for each of said third members, each said time-of-first-known-fraud and said predetermined past time frame are used to filter out those separately retrievable files not within said predetermined past time period from said selecting" [Anderson, col. 5, lines 16-21 with Anderson, col. 8, lines 45-60 with Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52 with Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6].

Claim 6 can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 4 wherein said separately retrievable files are created using identifier features of said second members suited to maximizing data compression" [Balabine, col. 7, lines 35-40 with Balabine, cols. 7-8, lines 55-2 with Balabine, Figs. 5A-5C with Balabine, col. 8, lines 23-26].

For **Claim 7**, Anderson teaches: "The method as set forth in claim 1, said storing further comprising."

Anderson discloses the above limitation but does not expressly teach:

- "segregating correlated first members and second members into a plurality of data files wherein said files are identifiable via a predetermined common characteristic of at least one predetermined particular characteristic of a selected one of said first members and said second members."

With respect to Claim 7, an analogous art, Balabine, teaches:

- "segregating correlated first members and second members into a plurality of data files wherein said files are identifiable via a predetermined common characteristic of at least one predetermined particular characteristic of a selected one of said first members and said second members" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 8, lines 23-26 with Balabine, col. 7, lines 35-40 with Balabine, cols. 7-8, lines 50-2 with Balabine, Figs. 5A-5C].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide

the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

For **Claim 12**, Anderson teaches: "The method as set forth in claim 11 further comprising."

Anderson discloses the above limitation but does not expressly teach:

- "sorting said matrix into a plurality of data files such that in each of said files one of said first and second items has a predetermined unique characteristic;

With respect to Claim 12, an analogous art, Balabine, teaches:

- "sorting said matrix into a plurality of data files such that in each of said files one of said first and second items has a predetermined unique characteristic;

[Balabine, col. 6, lines 40-46 with Balabine, Figs. 5A-5C with Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 35-40 with Balabine, col. 7, lines 50-60]

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a unique characteristic. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

Claim 14 can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 12 wherein each of said files is associated with a common structure or characteristic of at least one of said first and second items" [Balabine, col. 6, lines 40-46 with Balabine, Figs. 5A-5C with Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 35-40 with Balabine, col. 7, lines 50-60].

For **Claim 22**, Anderson teaches: "The method as set forth in claim 19...is characterized by a given time frame bounding said transactions logged" [Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6].

Anderson discloses the above limitation but does not expressly teach: "...wherein said database comprises a plurality of files wherein each of said files."

With respect to Claim 22, an analogous art, Balabine, teaches: "...wherein said database comprises a plurality of files wherein each of said files" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 50-56, with Balabine, col. 8, lines 23-26].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine with Anderson because both inventions are directed towards using files and databases on computers with file systems.

Balabine's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a time frame. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and install it into the database system of Anderson, thereby offering the obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries.

Claim 23 can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 22 wherein each of said plurality of files is sortable by identifier data representative of subsets of credit card numbers" [Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 50-56, with Balabine, col. 8, lines 23-26 with Balabine, Figs. 5A-5C].

Claim 26 can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 22 wherein said files comprise a matrix [Balabine, Figs. 5A-5C with Balabine, col. 7, lines 56-66] of data compressed identifier pairs wherein each of said pairs includes a credit card identifier [Anderson, col. 8, lines 35-38] and a point-of-use situation identifier" [Anderson, col. 7, lines 10-15 with Anderson, col. 8, lines 40-60].

Claim 27 can be mapped to Anderson (as modified by Balabine) as follows: "The method as set forth in claim 26 further comprising providing a first database comprising a relational data pair relating said point-of-use situation identifier and said credit card identifier, [Anderson, col. 7, lines 10-15] and a second database correlating each said point-of-use situation identifier to a physical said point-of-use" [Anderson, col. 7, lines 21-31].

22. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.) in view of U.S. Patent No. 5,421,008 (Banning et al.).

Claim 28 can be mapped to Anderson as follows: "A method of doing business comprising:

- receiving a set of credit card numbers and a set of merchants authorized to accept said credit cards; [Anderson, col. 5, lines 16-21 with Anderson, col. 5, lines 45-53 with Anderson, col. 7, lines 10-14 with Anderson, col. 7, lines 25-31 with Anderson, col. 8, lines 35-38]
- for a given set of compromised credit card numbers, extracting each related said data point of said matrix; [Anderson, col. 8, lines 45-60 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 54-65]
- incrementing a tally for each merchant associated with each related said data point; [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65] and

Anderson discloses the above limitations but does not explicitly teach:

- "forming a matrix of said numbers and said merchants
- logging each use of a card with a merchant as a predetermined data point of said matrix
- sorting said merchants according to the tallies."

With respect to Claim 28, Anderson, teaches:

- "forming a matrix of said numbers and said merchants" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5 with Anderson, col. 8, lines 45-60]

- logging each use of a card with a merchant as a predetermined data point of said matrix" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

With respect to Claim 28, Banning, teaches:

- sorting said merchants according to the tallies. [Banning, col. 9, lines 1-6].

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases (a matrix), however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Banning and Anderson before him/her to combine Banning with Anderson because both inventions are directed towards obtaining information.

Banning's invention would have been expected to successfully work well with Anderson's invention because both inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising categorized scored transactions. However, Anderson does not expressly disclose sorting merchants according to tallies. Banning discloses a system for interactive graphical construction of

a data base query and storing of the query object links as an object comprising sorting information on any type of information.

It would have been obvious to one of ordinary skill in the art at the time of invention having the teachings of Banning and Anderson before him/her to take the sorting from Banning and install it into the invention of Anderson, thereby offering the obvious advantage of the view showing information in the desired order for the user of Anderson.

23. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,094,643 (Anderson et al.) in view of U.S. Patent No. 5,937,406 (Balabine et al.), further in view of U.S. Patent No. 5,404,507 (Bohm et al.).

For **Claim 30**, Anderson teaches: "of interactivity events between items-of-use, each having a unique first identifier, [Anderson, col. 8, lines 35-38] and points-of-use, each having a unique second identifier, [Anderson, col. 8, lines 49-67] and a set of compromised said items-of-use, [Anderson, col. 5, lines 24-27], each of said files covering a given time frame for said interactivity events, [Anderson, col. 5, lines 47-52 with Anderson, col. 6, lines 2-6] a method for point-of-compromise scoring [Anderson, col. 5, lines 24-38 with Anderson, col. 6, lines 10-30] comprising:

- determining a time-of-first-known-fraud for each said compromised said items-of-use; [Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52]
- for each said compromised said items-of-use, assigning a suspected date window prior to said time-of-first-known-fraud; [Anderson, col. 9, lines 1-12 with

Anderson, col. 6, lines 2-6 with Anderson, col. 5, lines 22-27 with Anderson, col. 5, lines 47-52]

- selecting those ones of said files included in said suspected date window wherein said compromised said items-of-use are included in said files; [Anderson, col. 8, lines 45-60 with Anderson, col. 5, lines 16-21]
- for each selected file and for each compromised said items-of-use, counting the number of said interactivity events for each of said points-of-use in each said selected file" [Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 55-65].

Anderson discloses the above limitations but does not expressly teach:

- "Given a computerized matrix
- wherein said matrix further comprises a plurality of files."

With respect to Claim 30, Anderson, teaches:

- "Given a computerized matrix" [Anderson, col. 7, lines 7-15 with Anderson, col. 8, lines 35-38 with Anderson, cols. 9-10, lines 54-5].

With respect to Claim 30, an analogous art, Balabine, teaches:

- "wherein said matrix further comprises a plurality of files" [Balabine, col. 6, lines 40-46 with Balabine, Figs. 5A-5C with Balabine, col. 7, lines 5-9 with Balabine, col. 7, lines 12-20 with Balabine, col. 7, lines 29-31 with Balabine, col. 7, lines 35-40 with Balabine, col. 7, lines 50-60].

With respect to Claim 30, an analogous art, Bohm, teaches:

- "assigning the highest score indicative of point-of-compromise to a highest scoring one of said points-of-use" [Anderson, col. 6, lines 1-30 with Anderson, col. 5, lines 16-21 with Anderson, cols. 7-8, lines 49-38 with Anderson, col. 8, lines 45-60 with Anderson, col. 9, lines 13-27 with Anderson, col. 9, lines 54-65 with Bohm, col. 8, lines 1-5].

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Balabine and Bohm with Anderson because the inventions are directed towards using files and databases on computers with file systems.

Balabine's and Bohm's inventions would have been expected to successfully work well with Anderson's invention because the inventions use databases. Anderson discloses a system for detecting counterfeit financial card fraud comprising a database of cards, transactions, and information, however Anderson does not expressly disclose that the storage and recording of this database is divided into files based on a time frame or assigning highest scores. Balabine discloses a file system interface to a database comprising BEM's that divide the database into files as specified by software implementation software library or customer specifications. Bohm discloses an apparatus and method for finding records in a database by formulating a query using equivalent terms which correspond to terms in the input query comprising highest valued candidates.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the file system/database from Balabine and the highest values (scores) of Bohm and install it into the database system of Anderson, thereby offering the

obvious advantage of automatically creating desired files from the database information so that files can be found fast and on arbitrarily complex queries, and obtaining the highest possible point-of-compromise given the scores for the time being examined.

Anderson discloses gathering data from FI's as files with fields and storing that data for further processing comprising databases (a matrix), however Anderson does not explicitly disclose that the further processing is scoring the cards/tractions or events.

It would have been obvious to one of ordinary skill in the art at the time of invention to take the storage features from Anderson and install it into the invention of Anderson, thereby offering the obvious advantage of being able to quickly recall previously computed data (such as history data) of Anderson instead of re-computing data when it is desired.

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brent S. Stace whose telephone number is 571-272-8372 and fax number is 571-273-8372. The examiner can normally be reached on M-F 9am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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